



ANNUAL REPORT OF THE AGRICULTURAL DEPARTMENT, DOMINICA. 1941.

1. **Staff Changes.**—Hon. F. G. HARCOURT, M.B.E., for 16 years Agricultural Superintendent and Curator of the Botanic Gardens, was promoted Assistant to the Administrator of Antigua. Mr. HARCOURT left Dominica on January 5th and the department was thus short-staffed for the fourth out of five consecutive years. Mr. D. A. PERRYMAN, local student at the Imperial College of Tropical Agriculture, gave temporary assistance during his summer vacation.

Mr. R. L. BLANCHARD managed the Government Marketing Depot during the absence of Mr. G. A. WINSTON from March 10th to May 19th. An exchange of duties was effected on November 21st between Mr. E. A. TROTTER, Foreman Engine Driver, Cold Storage, and Mr. A. C. NORRIS of the Power Station.

2. **Policy.**—The department implements Government policy and co-operates with other departments and with various committees on which it is represented. It also acts on the advice of the Inspector-General of Agriculture and of the Imperial College of Tropical Agriculture through the Commissioner of Agriculture. Agricultural development proceeds on lines similar to those outlined in fuller reports, the last of which was for 1939, and received a stimulus as the result of better markets. Increasing attention is being paid to the needs of the peasantry, including work on soil erosion and food production.

A comprehensive scheme under the Colonial Development and Welfare Act for extending the work of the department has been approved by the Secretary of State and will be inaugurated as soon as the necessary staff can be appointed.—The additional total expenditure, to be spread over five years in the first instance, will be nearly £25,000, with provision for investigation, demonstration and livestock centres in the country districts.

II. AGRICULTURE IN THE COLONY.

1. **Weather Conditions.**—The year was on the whole much more favourable for agriculture than was 1940, but rainfall was again low during most of the first six months. The rest of the year, especially November and early December, was wetter than usual. The total at the Botanic Gardens was 77.58 inches, roughly two inches above average. Other meteorological records were kept and planters submitted returns of rainfall.

2. **Trade.**—For the first time for years exports, which are almost entirely of agricultural origin, exceeded imports in value. Details are in the Treasury returns in *Official Gazette* No. 8 of 1942 which gave the respective totals as £156,496 f.o.b. and £124,004. The chief factors responsible were greatly improved crops and markets, as well as young cultivations coming into bearing.

3. **Foodstuffs.**—The local food supply was fairly satisfactory, though occasionally slightly restricted by drought and the growing export trade with other islands. Illicit exports to the French islands, including livestock, are said to have increased. Imported foodstuffs of which the chief were flour, sugar, oils and fats, salt fish and rice, increased in value but were controlled in quantity and averaged under 17/- per head of the population.

4. **Export Crops.**—

Limes.—Owing to the large number of small growers, fruit production is best gauged by exports and to furnish a basis for comparison it is assumed that the average recovery from a barrel of ripe limes does not exceed $\frac{1}{2}$ lb. by weight of distilled oil. On this basis and taking the recovery of other products as in earlier years, exports in 1940 and 1941 were equivalent to not less than 51,000 and 95,000 barrels of fruit. Some of the increase was due to carry-over stocks. On several estates crops were nearly doubled because of unusually favourable weather in relation to withertip disease. Local prices for ripe limes per barrel in the open market rose from 8/9 to 14/- while quality fruit fetched 16/6 in December 1941 and 20/- early in January 1942—a new record.

The chief items shipped were: Green Limes, 6,101 barrels; Raw Lime Juice, 355,781 gallons; Distilled Oil, 36,452 lbs.; Ecquelled Oil, 525 lbs.; all lime products being valued at £90,299 against £39,617 in 1940. The continued upward trend in prices and young trees coming into bearing make a further increase probable in 1942, though limits due to withertip and shipping conditions must be allowed for.

Bananas.—Further progress was made in production and handling, and in consequence the Dominica Banana Association were twice able to advance local prices. The total sold by the Association under contract with the Canadian Banana Company was 63,894 bunches, or about 25% more than in 1940. Nearly 6,000 bunches were utilized for the inter-island trade and fruit unsuited for export provided a useful addition to the home market. The peasants' lack of confidence due to sudden tightening of the standard in 1939 has now been largely restored, but the high prices for other products and difficulties of transport from remote forest gardens prevent rapid expansion. In addition, irregular shipping facilities may seriously affect production in 1942. These considerations far outweigh the disease factor, which is dealt with in Section III.

Other Fruits.—Extensions made after the 1930 hurricane are now materially augmenting supplies, especially of grapefruit, but there are many cultivations not yet fully productive. Crops of avocados and mangoes were normal. The trade with distant markets in fresh fruits is detailed under "Government Marketing Depot" (p. 4). There is also an expanding inter-island huckster trade, which includes oranges shipped in barrels.

Apart from limes and bananas, 32,556 packages valued at £14,945 left the island, as against 26,262 packages at £10,291 last year.

Cocoa.—Although exports increased by nearly 50% and despite restricted shipments to the United Kingdom, the supply was insufficient to meet demands in Canada and the islands. Many cultivations still suffer from prolonged neglect, but price levels, which rose from 2d. to 5½d. per lb. are encouraging better attention and some replanting. This is an industry well suited to many areas not too exposed to hurricanes and some extension is anticipated. Exports totalled 407,441 lbs.

Cocoonuts and Copra.—Exports fell off slightly and expressing copra as nuts, were equivalent to roughly 2,202,000 nuts, excluding stocks of copra remaining for 1942 shipment. Although the Barbados price for copra was better than prices formerly obtained in the United Kingdom, no great improvement in cultivation occurred or extension is expected. A small factory made soap and the manufacture of edible oil is contemplated. A large number of nuts are also consumed locally.

Bay Oil.—Intense activity followed keener demands and prices advanced from 1/6 to 3/9 per lb. locally. Exports of 50,870 lbs. valued at £8,051 were more than double the quantity exported in the previous year. Collection of leaves from wild and semi-wild trees and most of the distillation is done by peasants, especially in the Eastern district, where planting continues. Some bay rum is produced and exported.

Vanilla is also mainly a peasant crop and the recent boom continues. In 1941 from 3/- to 3/6 a lb. was paid for green vanillas and in 1942 up to 7/-. A 20% increase occurred in shipments of cured vanilla, which were over 12,000 lbs. valued at £18,667. But for the effects of a long dry season, a larger output was expected and can be looked for in future. Considerable planting activity continues, although faulty cultural methods, careless manipulation and over-fecundation result in unnecessary disappointments to many growers. Notwithstanding renewed efforts to check it, praedial larceny again prevailed on a considerable scale.

Other Products, which include rum, tobacco, coffee, honey, oils, fruits, spices, starches, and forest products are primarily utilised for home consumption, with an increasing surplus for export. Extension of markets is constantly being sought and is now taking more noticeable effect.

III. WORK OF THE DEPARTMENT.

1. Botanic Gardens.—The Gardens attained their 50th year and in consequence the number of old trees requiring removal or limiting in size increases, as well as the propagation and planting of replicates. Roads, fences, buildings and other public amenities, which include the cricket field and grounds at the Library, Memorial Park, Morne Bruce and Military Cemetery were kept in good order. Plant exchange abroad and the propagation of decoratives were somewhat curtailed owing to the war.

The remodelling of the Economic Section proceeds slowly, since funds are also utilised for miscellaneous services such as the importation of large quantities of vegetable seeds for retailing. The contents of 25 permanent plots were listed in the 1937 report. During 1941 the last of the Avocado collection in plot 1A was transferred to hillside plot 4 and the 47-year old citrus in plot 9 removed for strip-cropping with 22 local and introduced varieties

of food crops. Numerous minor improvements were made. Costs, returns and details of experimental work were recorded as usual.

2. Plant Distribution.—The numbers of economic plants distributed were insufficient for the demand owing to short funds in 1940 (£216) and the long dry season in 1941. The chief budded or grafted items were West Indian Limes 4,918; Washington Navel Oranges, 2,782; Other Citrus, 591; Mangoes and Avocados, 155; total 8,446. Funds at the rate of £500 were restored in May and although considerable extensions were made with all available material, a shortage of budded citrus in relation to the big demand will still be felt in 1942. Other economic plants distributed were Canes, 4,004; Cacao, 1,074; Coffee 400; Nutmegs, 101; Miscellaneous, 1,108; total, 6,687. To this total should be added 3,500 canes not ready for distribution till early 1942.

Plant distribution is of great importance to small growers, to whom preference is given, and includes assistance to private nurseries and top-working in the field. Propagation is performed by pupils and distribution largely arranged through the District-Instructors, in both cases under supervision.

By courtesy of the owners of Felicite Estate, a small nursery was started in December at La Plaine to supply peasants in the Eastern District.

3. Experiment Station.—The average crop from 9.54 acres of established budded limes was 176 barrels per acre. This high yield is attributed to regular intensive methods of soil conservation and improvement. Experimental results will be published locally in bulletin form.

Soil Conservation for Food Crops.—A steep, exposed slope was laid out with head drain and eight contour strips, vertically divided into three sections:—I. Contour drains plus manures, II. Contour drains without manures, III. Control. Manures include animal and vegetable refuse of all kinds, not artificial fertilisers. The crops grown (from top to bottom) were fodder-grasses, yams, sweet potatoes, maize, canes, peanuts, cassava and tania. All except the grasses are to be rotated. Construction work is not yet complete, but Sections I and II stood up well to 6.44 inches of rain on the night of October 11th.

4. Pests and Diseases.—The average monthly incidence of Panama Disease was 1.34% in 12,843 banana stools inspected. *Cercospora* Leaf Spot was observed in 67 plots distributed in many parts of the island but is not yet serious, perhaps because of the sheltered locations of most banana gardens. The Porto Rico variety seems most susceptible. Control work and propaganda were greatly increased. Specimens of *Lioderma 4-dentatum*, a predator of the banana borer, *Cosmopolites sordidus*, were received from the Imperial College of Tropical Agriculture and released at Goodwill.

Vanilla troubles investigated usually proved to be due to improper cultivation and manipulation, though fungus diseases exist.

Mr. R. G. FENNAH paid two visits to Dominica and his Sixth Report on Citrus Pests Investigations contained valuable advice *inter alia* on root grubs (*Diaprepes* spp.), withertip of limes and the ovipositing orange moth, *Gymnandrosoma* sp.*. Fruit-piercing moths are receiving attention.

5. Agricultural Instruction and Advisory Work.

Education.—The pupil training system was further modified to allow of a greater variety of field work. Five Junior pupils and two probationers were admitted and several Seniors were given special extension employment. Owing to the unprecedented demand for pupils on estates, the internal work of the department was frequently disrupted. The usual course was given to Grammar School boys and a master of the school kindly gave a short Botany Course to Juniors. Primary-School gardens were periodically visited.

Peasants' Adviser.—Mr. G. J. STEDMAN undertook some of the work at headquarters in addition to his district work, which includes supervision of the work of the Instructors.

District Work.—The number of Banana Inspectors was in May increased from five to eight. They received a course with special reference to food production and soil conservation and were given the status of District Instructors in keeping with the varied nature of their work, which is largely amongst the peasantry scattered over a wide area. One was for the first time stationed at La Plaine.

Advisory Work on estates was performed as far as depleted staff permitted. Numer-

* Fully described in "Tropical Agriculture," Vol. XIX. 4. p. 73.

ous applications from peasants wishing to purchase crown lands or in need of better tracks were investigated. Tests of bay oil, lime juice, milk and other products were carried out as usual. Attempts were made to restrict correspondence and committee work to bare essentials in order to leave more time for field work. Sixteen short "bulletins" on current agricultural problems were prepared for the local newspapers.

6. **Livestock.**—Two British Alpine goats stood for service. Preparations were made with the help of the Public Works Department for the housing of other stock but importations had to be deferred owing to contagious diseases in other islands.

7. **Government Marketing Depot and Cold Storage.**—The quantity of fruit packed for export was nearly double that of the previous year. The chief items were: Oranges 7,519 crates; Grapefruit, 4,988 crates; Limes, 1,628 crates and 18,241 lugs; Avocadoes, 3,642 lugs; Mangoes, 1,583 crates and 1,447 lugs. The Manager also handled lemons, pumpkins, coconuts, arrowroot, tous-les-mois, bananas and green vegetables, the total of all products being 39,898 packages. The returns per package except for limes were as good as or better than in previous years.

The **Fruit Trade** with Bermuda expanded and Canadian orders could not always be met in full, even when ships called regularly. Renewed interest occurred in grapefruit, the net returns for which compared favourably with oranges. Successful attempts were made to extend the limited trade with neighbouring islands in fruits and vegetables of a better quality than that offered by hucksters. Trade with the United Kingdom was discontinued owing to the war.

Oranges, lemons and grapefruit were gas-coloured and oranges were further submitted to a colour-adding process. The extra time and space required and the larger quantities handled were responsible for heavy congestion in the main season, when the staff often had to work from early morning till far into the night. A special meeting of producers was called to devise means of easing the situation as far as possible. The extension of facilities, including cold storage space, has been approved by the Secretary of State.

The **green lime trade** with Bermuda improved, whereas that with Canada was unsatisfactory and proceeds in most instances were barely sufficient to cover expenses. The **Dominica Limes Association** has under consideration a scheme proposed on his visit by Mr. C. R. STOLLMEYER, the Canadian Trade Commissioner, for co-ordination of shipments from Dominica, Montserrat and St. Lucia to ensure more orderly marketing.

Expenditure, not including sinking fund or power supplied by the Public Works Department at nights totalled £1,057. 8. 9. and revenue £1,751. 13. 1. The latter included unusually large sales of ice. The buildings and plant were maintained in working order, but for a temporary breakdown in December which was soon repaired. Mr. C. T. WATTS, Imperial College Engineer, paid his customary visits of inspection and advice.

IV. EXPENDITURE.

Expenditure on **Banana Disease Control**, *i.e.* District Instruction work, and on **Plant Distribution** was increased to pre-war level. Other expenditure was curtailed wherever it was possible to do so without seriously limiting efficiency.

V. NEW AGRICULTURAL LEGISLATION.

Ordinance No. 1 of 1941 — Plant Protection Ordinance.

„ No. 22 „ „ — Sale of Produce Ordinance.

„ No. 23 „ „ — Agricultural Produce Export Ordinance.

The two latter are to come into force on dates to be proclaimed in 1942.

H. B. PIDDUCK,

Acting Agricultural Superintendent.

17th April, 1942.